

## **REFERENCE 4**

**Preliminary Proposal for the Idaho-East Area Sanitary  
and Industrial Waste-Disposal Expansion for Argonne  
National Laboratory, 5/25/65**

PRELIMINARY PROPOSAL  
FOR  
THE IDAHO-EAST AREA SANITARY AND INDUSTRIAL WASTE-  
DISPOSAL SYSTEM EXPANSION  
FOR  
ARGONNE NATIONAL LABORATORY  
AT  
NATIONAL REACTOR TESTING STATION  
IDAHO FALLS, IDAHO

May 23, 1965

A. General Description of Work

This proposal covers the construction of a 200-foot-square sewage lagoon located off the northeast corner of the EBR-II site, the installation of interconnecting sewer lines, and the abandonment of two septic tanks and drain fields.

B. Justification of Basic Need

There are at present a septic tank receiving sanitary waste from the Plant Services and Materials Handling buildings and a similar installation receiving waste from the sanitary facilities and the Cafeteria in the most recent addition to Building 752. The effluent from these two systems is discharged to their respective drain fields, which are of an undetermined, but in all probability a relatively short, life.

Consolidation of the wastes from these two systems in the east side of the EBR-II area to facilitate the abandonment of the septic systems is necessary at this time because these existing systems are located either directly under or contiguous to proposed new roadways, building extensions, or expansions to other underground utility systems. If the existing drain fields are not abandoned at this time, it will be necessary to locate all planned expansion farther from existing facilities, thereby increasing the cost of each enlarged system. It would also be necessary to provide individual industrial and/or sanitary disposal systems for the authorized facilities: the Zero Power Plutonium Reactor and the Inspection and Testing Facility, plus the proposed facilities; the Irradiated Fuel Examination Facility; the Materials Handling-Machine Shop complex; and the Office Addition to the Laboratory and Office Building.

The individual-disposal-system approach, in addition to necessitating the spreading of the facilities farther apart and increasing the cost of other utilities serving them, also creates the possibility of contamination of

PRELIMINARY ESTIMATE OF COST

FOR

PROPOSED SEWAGE LAGOON - IDAHO-EAST AREA

May 25, 1965

	<u>Amount</u>
1. <u>Engineering</u> - Title II, Title III Argonne National Laboratory	\$ 7,000
2. <u>Construction</u> Utilities - Outdoor Sewage System	55,000 ✓
3. <u>Contingency</u>	3,000
Engineering                   \$   350	
Construction <u>2,650</u> ✓	
 Total Project Cost	 \$ 65,000

May 25, 1965

the underground water strata. The single-disposal-unit approach allows more efficient utilization of existing facilities and eliminates the possibility of contamination of our underground water resources.

In addition to the above, it has been established that the present waste-disposal system serving the balance of the EBR-II complex is undersized and cannot be expected to accommodate the additional material from the planned new construction identified above. When EBR-II was planned, the sewage system was designed for a population of 200 persons. Current population of the area is more than 300 persons, and it is anticipated that this number will reach 400 by 1968. In order to accommodate the present population with the existing system, it has been necessary to by-pass the leaching pit with industrial waste and route it directly to a nearby low area in the desert, thereby reducing the volume of effluent handled.

Experience with existing sewage lagoons on the NRTS and in the surrounding area indicates the absence of obnoxious odors, which seem inherent in an Imhoff tank installation.

The proposed lagoon has been sized on the basis of a population of 200 persons at 35 gallons per day, no percolation, and a 120-day retention period. Provisions are made, however, to enlarge the installation to a two-pond system with the addition of minor piping and earthwork for additional dikes.

Operation will be by present Plant Services personnel.

No safety, fire, explosion, or radiation risks are anticipated in the proposed installation.

C. Existing Structures and Commercial-Industrial Sources

There are no existing structures, nor is there equipment available from commercial sources for this type of facility.

D. Preliminary Plans

Drawing No. IFE-X-750-4, entitled "Proposed Sewage Lagoon - EBR-II Area," dated February 26, 1964, indicates the location and general features of the proposed installation.

E. Outline Specifications

Dikes will be compacted earth. Dikes and bottom of lagoon will be sealed with an asphaltic emulsion such as "Penepreme."

Piping will be vitrified clay and extra-strength cast iron with mechanical joints.

May 25, 1965

Pumps in lift station will be electrical duplex with approximately a 3 KVA loading.

F. Preliminary Estimate of Cost

The preliminary cost estimate is \$65,000, as indicated on the attached Preliminary Estimate of Cost.

G. Proposed Starting and Completion Dates

	<u>Start</u>	<u>Complete</u>
Title II Design	June 15, 1965	July 15, 1965
Construction	August 15, 1965	October 31, 1965
Field Inspection	August 15, 1965	November 15, 1965

H. Proposed Method of Accomplishment

It is planned to accomplish the design work with Laboratory personnel and the construction work by Laboratory-administrated lump-sum contract, with field inspection performed by Laboratory personnel.

I. Source of Funds

The necessary funds are available from Budget Account No. 04-2-65-9-000-47.